Chapter 4. Riparian Buffer Zones and Restoration

Riparian areas are naturally vegetated lands directly adjacent to streams, lakes, and wetlands (Fig. 34). In Kentucky, these zones are typically composed of trees, shrubs, and other native types of vegetation that can tolerate periodic flooding. Riparian zones are recognized as an integral aspect of healthy watershed management. These zones can be very effective in protecting water quality, reducing bank erosion, and storing flood waters. Riparian areas offer the public many indirect values through functions of

- water storage;
- flood reduction;
- stabilizing stream banks;
- improving water quality by trapping sediment and nutrients;
- shading of streams to help maintain temperature for fish habitat;
- shading to control excessive algae growth;
- habitat;
- providing shelter, travel corridors, and food for wildlife;
- education;
- recreation;
- aesthetics.

Figure 34: Riparian zone of Cypress Creek, Muhlenberg County

Riparian areas play a critical role in reducing nonpoint source pollution. In highly developed urban areas, riparian buffer zones may be destroyed through construction, filling, channelization, or other significant alteration. In agricultural areas, riparian zones may be impacted by overuse of the area for grazing, removal of native vegetation, or replacement of the buffer zone with annual crops (Fig. 35). Other significant impacts may occur as a result of various activities such as highway construction, surface mining, deposition of dredged material, and excavation of marinas. All of these activities have the potential to degrade or destroy the water quality improvement functions of riparian buffer zones. These zones may need to be restored or enhanced to promote a healthy watershed landscape.

Figure 35: Stream laden with excessive algae from lack of shade.

There are many recommendations for buffer zone widths depending upon the riparian zone objectives, watershed size, slope, and soil type. Depending on site conditions, a riparian forest